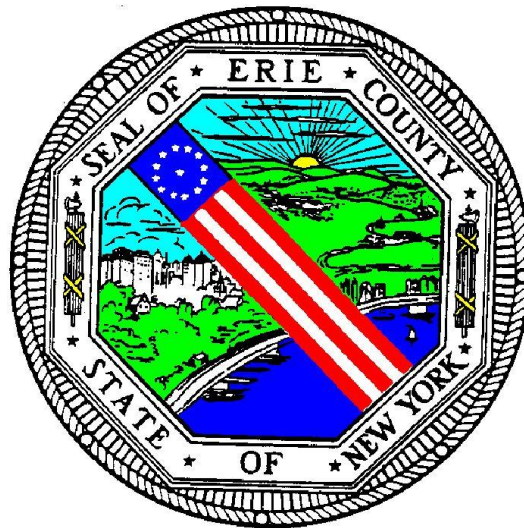


# UB Center for Industrial Effectiveness



*School of Engineering and Applied Sciences*

## Reduce Utilization of Department Purchase Orders (DPO)





# ***PROJECT TEAM MEMBERS***

Bridget Corcoran- Green Belt/Champion

Tom Miller- Six Sigma Master Black Belt & Mentor

Andrea Shear- Six Sigma Black Belt & Mentor

George Stipanovich- Process Owner

Joe Cercone- Budget Analyst

Stan Jemiolo- Deputy Commissioner Parks

Kathy Muck- Department of Health

Jeff Quinn- Deputy Commissioner B&G

Eileen Chlebowy- Social Services

Linda King- DPW- Highways

Rea Farley- Senior Services

Kim Jaeckle- Budget & Management





## ***Strategic Goal/Business Case:***

The goal of this Six Sigma project is to reduce the utilization of Department Purchase Orders (DPO's).

## ***Problem Statement:***

DPO's are an acceptable purchasing process when used for emergencies and/or one-time purchases under \$1,000. However, DPO purchases bypass approval requirements and controls by the Purchasing, Budget and DISS Departments. Data shows departments are paying more for products, services and shipping that are included in existing bids. In addition, DPO purchases are not currently captured by SAP and cannot be included in total usage figures used by Purchasing that could further leverage power buys for Erie County. There does not appear to be a correlation between size of department or department budget to number of DPO's.



# ***PROJECT CHARTER***



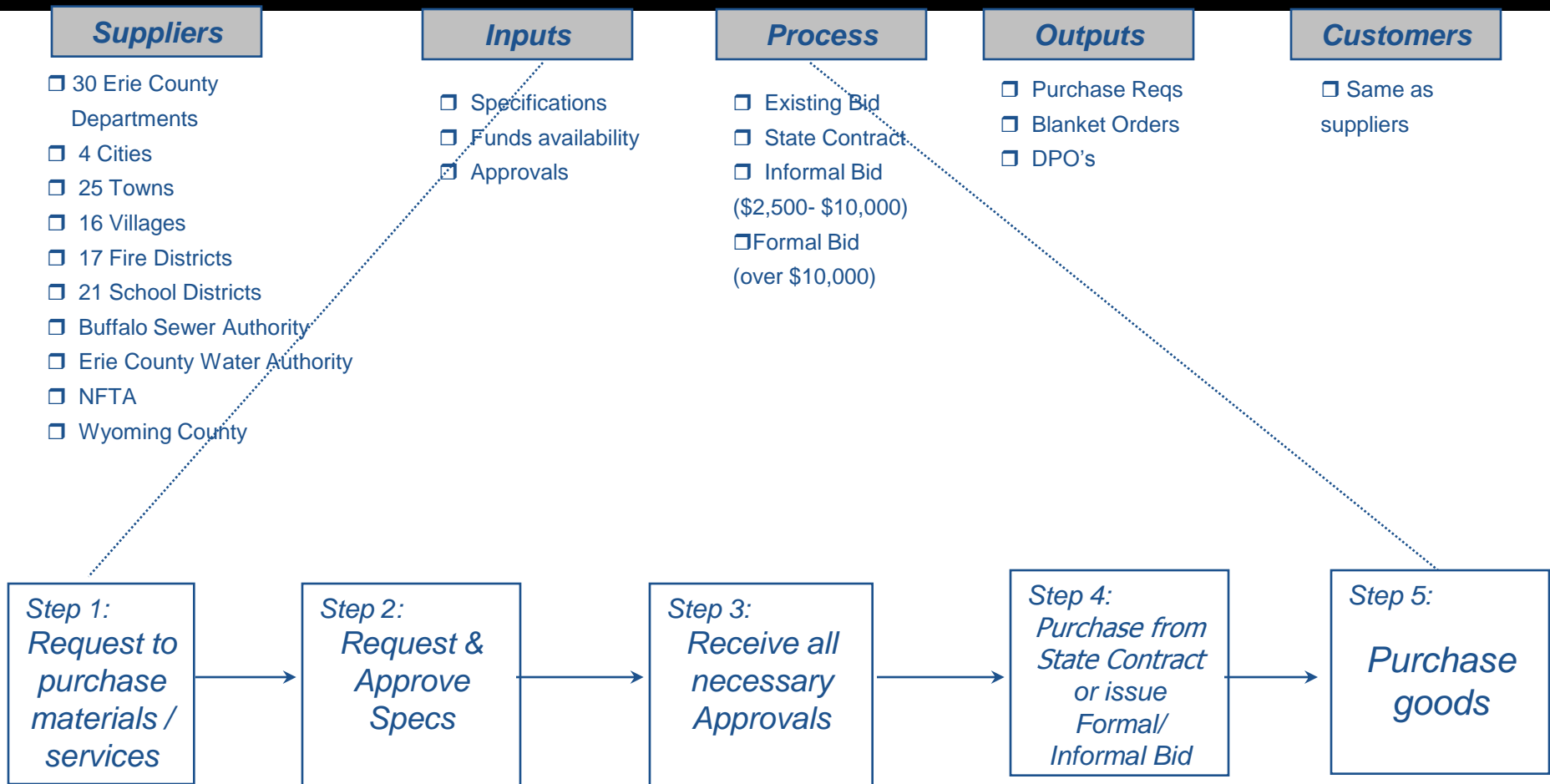
## ***Project Objective:***

To reduce utilization of DPO's by 2% without creating a consequential delay within the Purchasing Department all while accommodating the needs of the departments and following public purchasing laws to maximize tax payer dollars.

## ***Timeline:***

Project Start Date:	November 12, 2008
Project Re-Scope Date:	February 27, 2009
Project Improve/Control Phase Date:	August 2009







The total amount purchased in 2007 on DPO's is \$2,269,481.  
The financial goal is to reduce overall DPO spending by 2%.

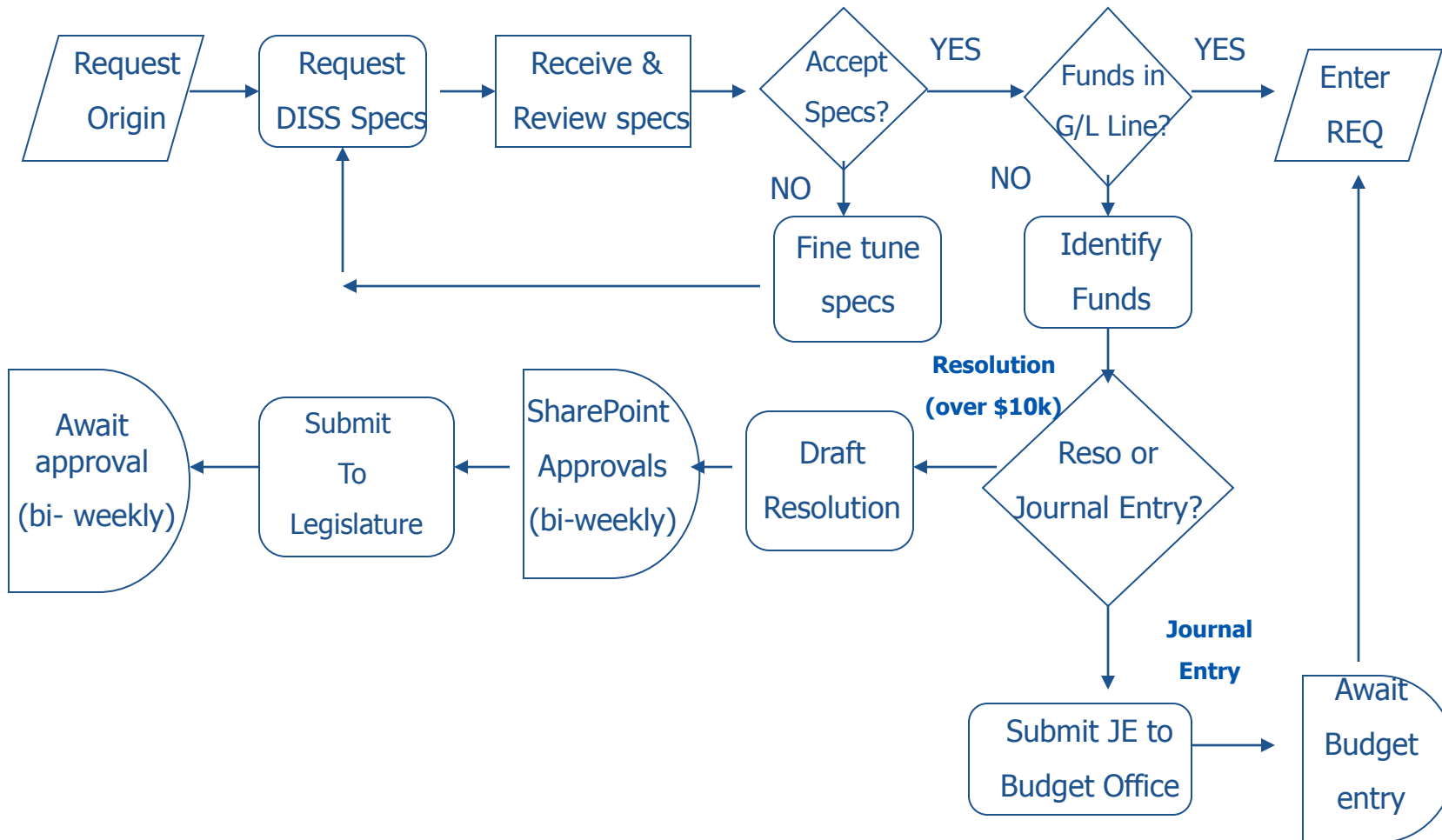




- Failure to meet customer's timeline
- Cost associated with delays and/or rework
- Lost opportunity to achieve greater economies of scale
- Risk of scope creep resulting in failure to meet project or grant goals
- Paying unnecessary fees or penalties due to lack of or poor planning



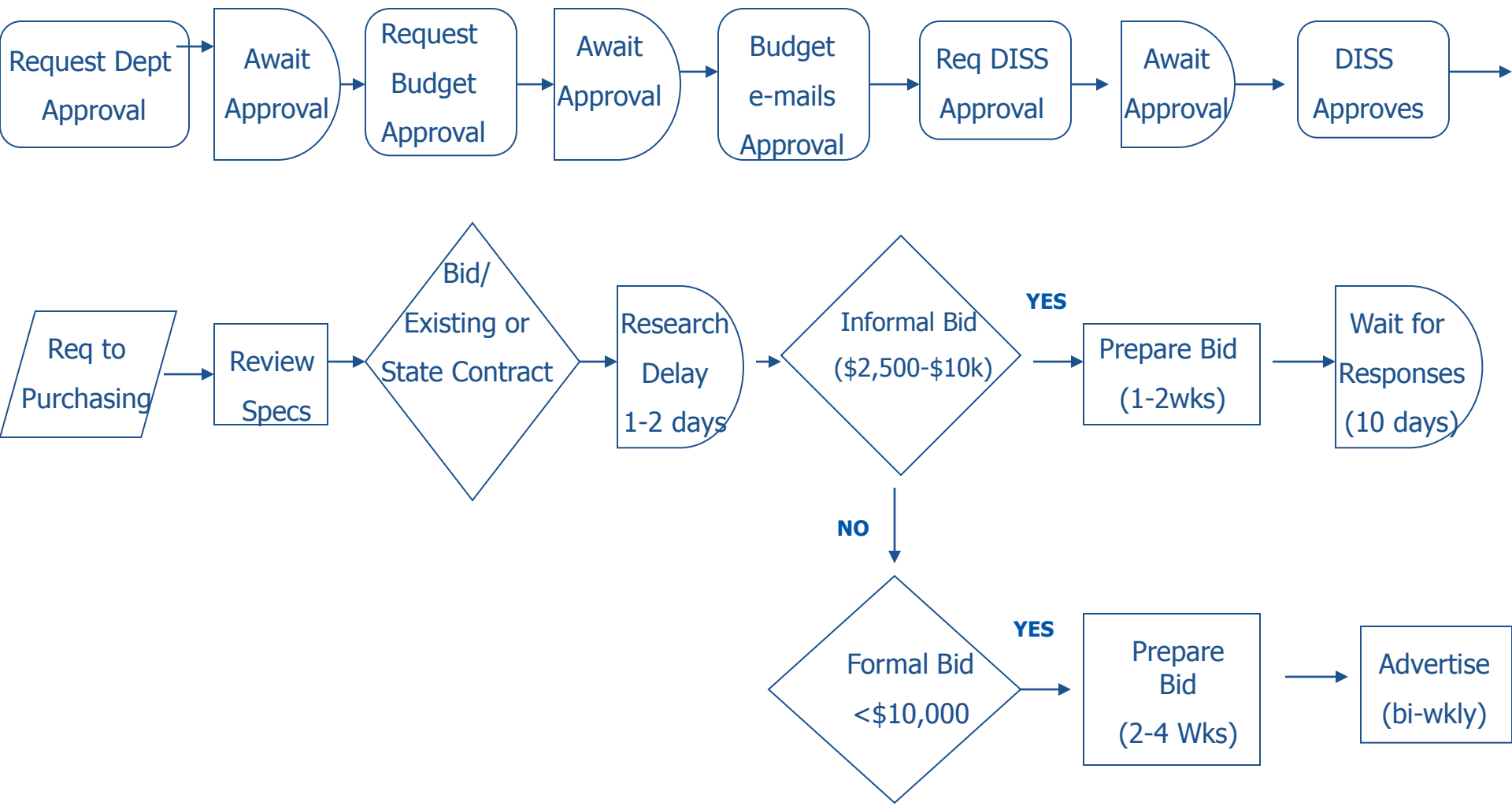
# PROCESS FLOW DIAGRAM – Purchasing Process





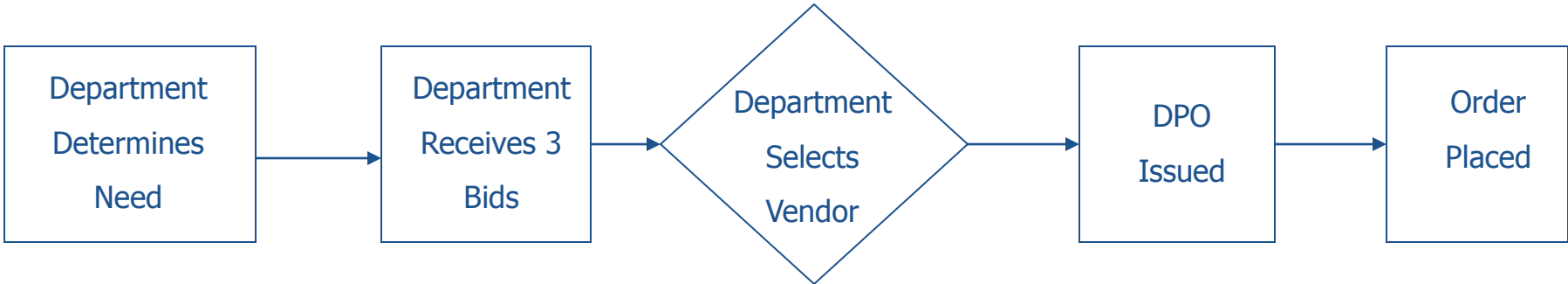


PROCESS FLOW DIAGRAM – Purchasing Process Continued



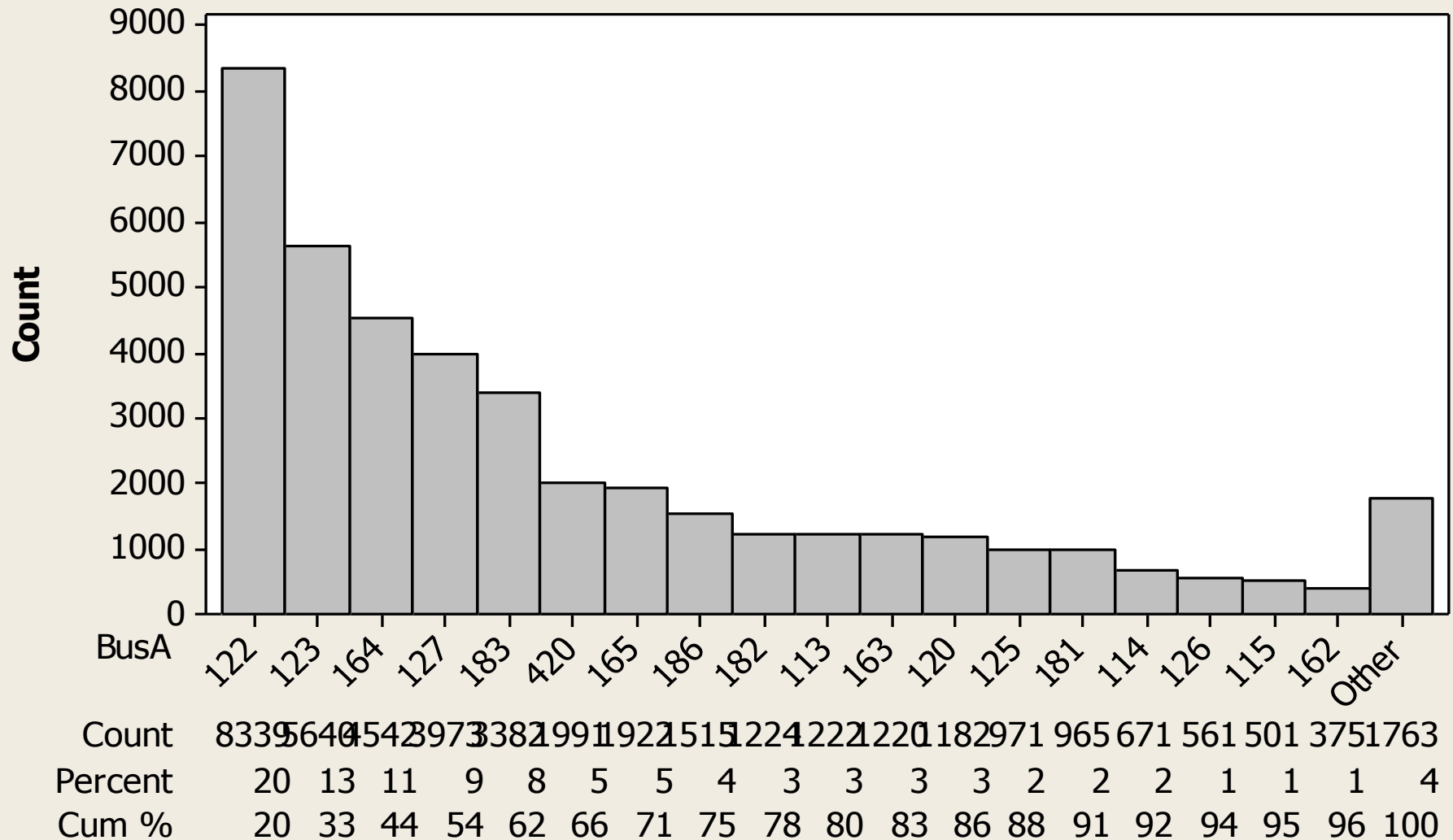


PROCESS FLOW DIAGRAM – DPO Process



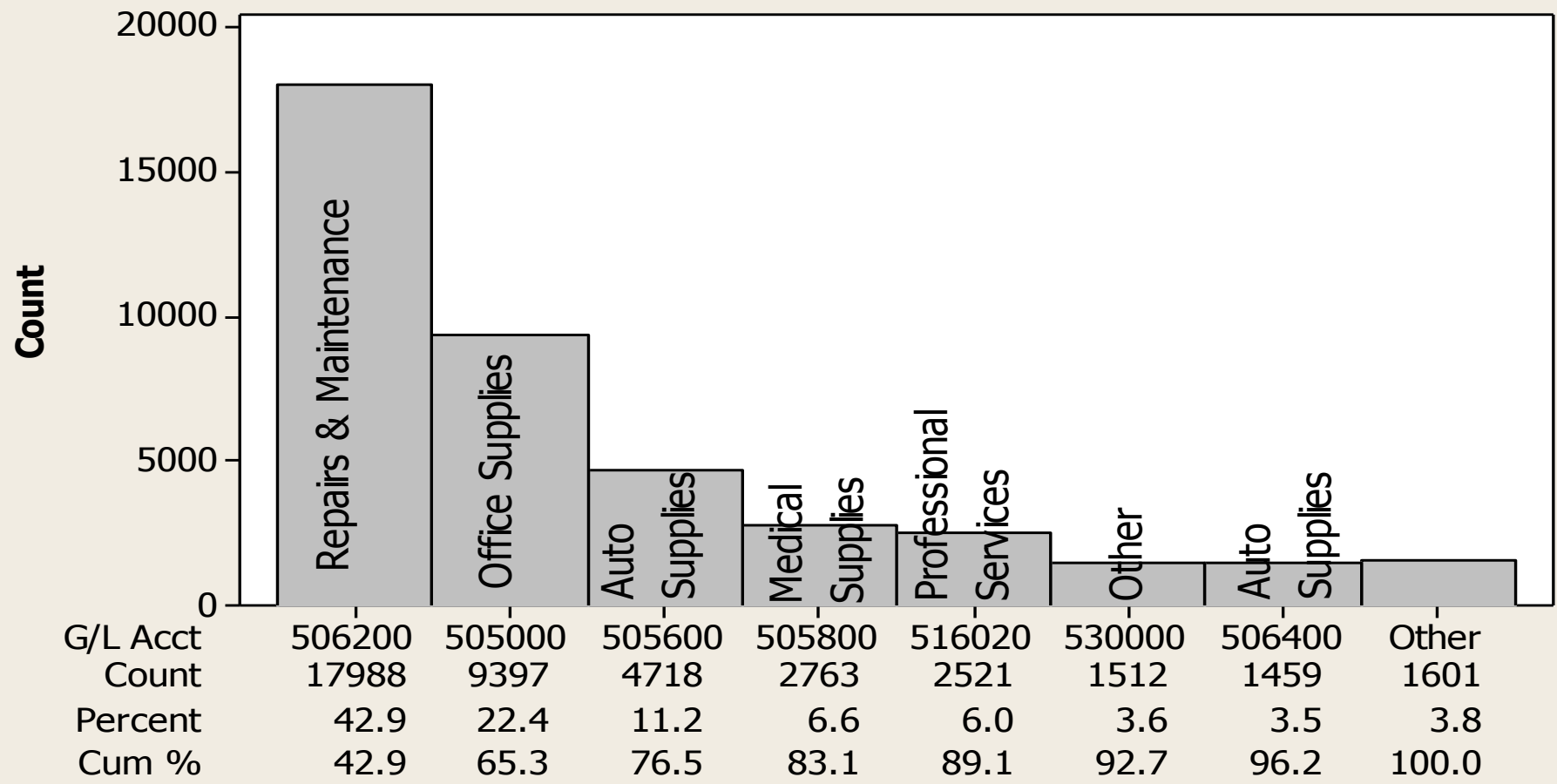


Pareto Chart of DPO by Business Area





Pareto Chart of Commodities Purchased



Worksheet: Types of Commodities Purchased





Pie Chart of Business Area (Percentages)

19.9%  
Department  
122 DPW  
(B&G)

13.3%  
Department  
123  
DPW  
Highways

10.8%  
Department  
164  
Parks

9.5% Department 127 Health

Worksheet: Decending Order of DPO's by Business Area

Category	
106	
103	
101	
160	
124	
161	
105	
116	
167	
112	
109	
102	
162	
115	
126	
114	
181	
125	
120	
163	
113	
182	
186	
165	
420	
183	
127	
164	





The re-scope focuses on 53.5% of the county-wide utilization of \$2,269,481.





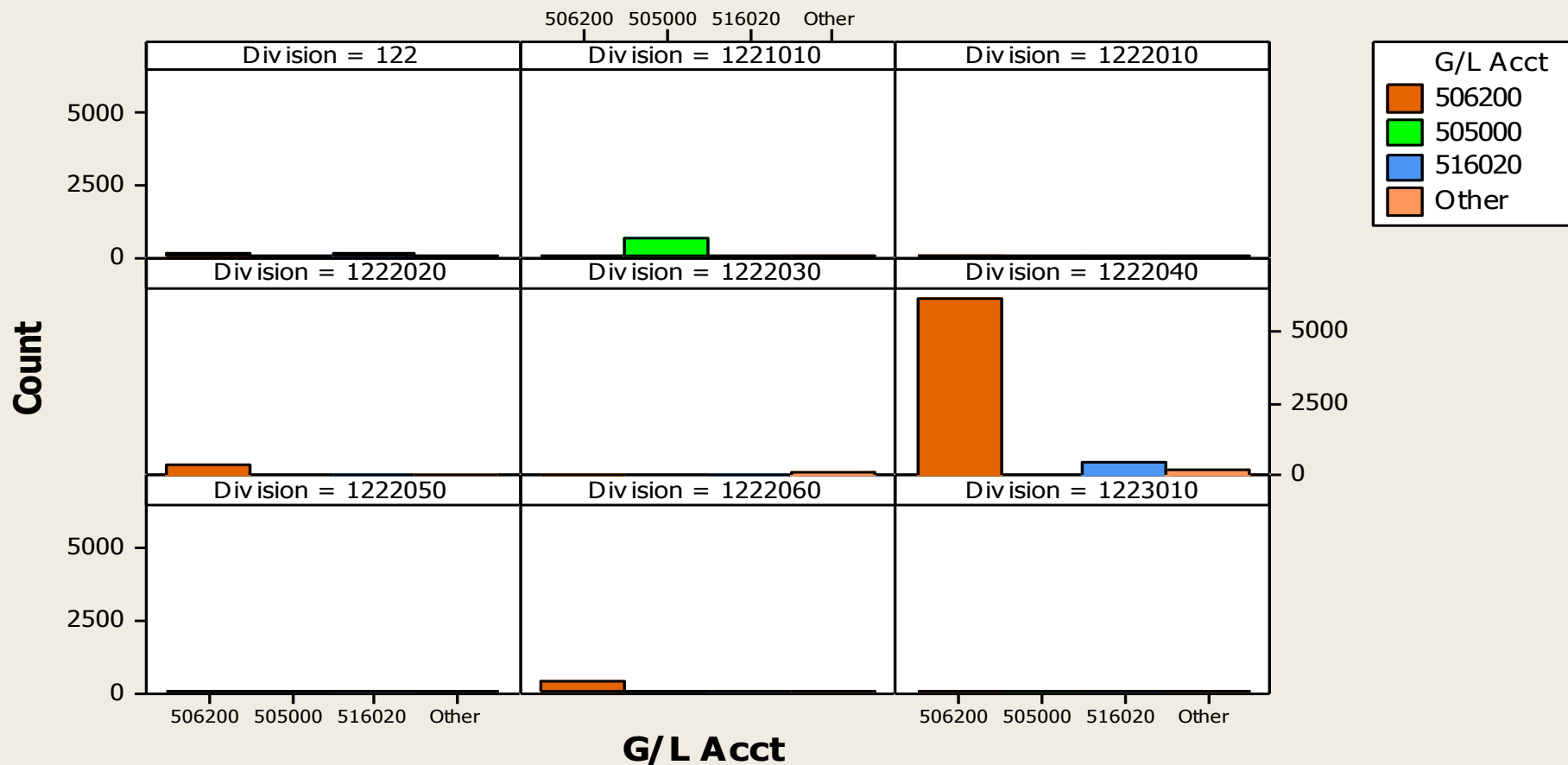
## Further Analysis of DPO Purchases within Vital Few Departments by:

- Division
- Funding Source
- Commodity





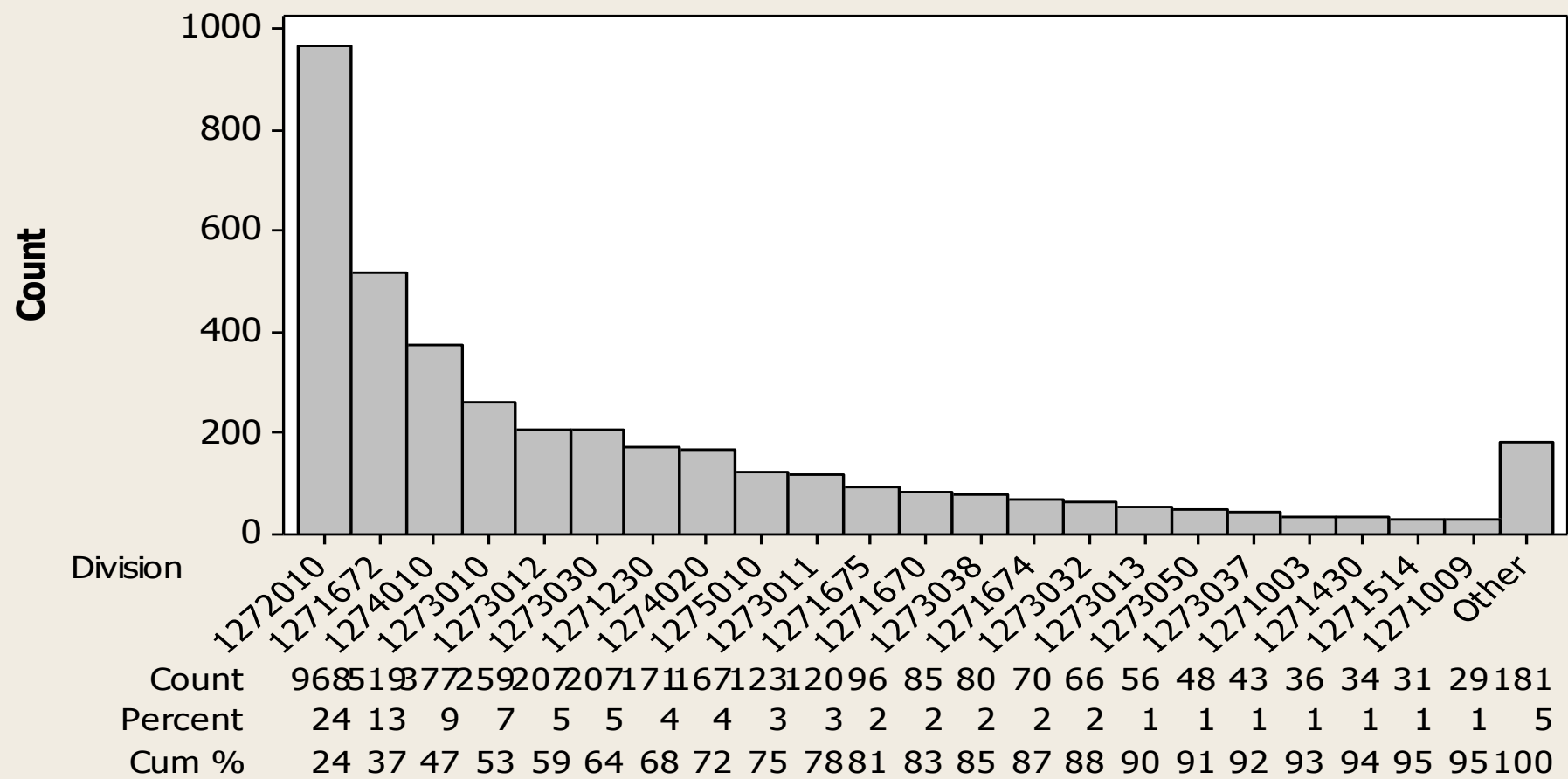
Buildings & Grounds General Ledger Purchases by Division







Pareto Chart of Health Dept (BA 127) by Division

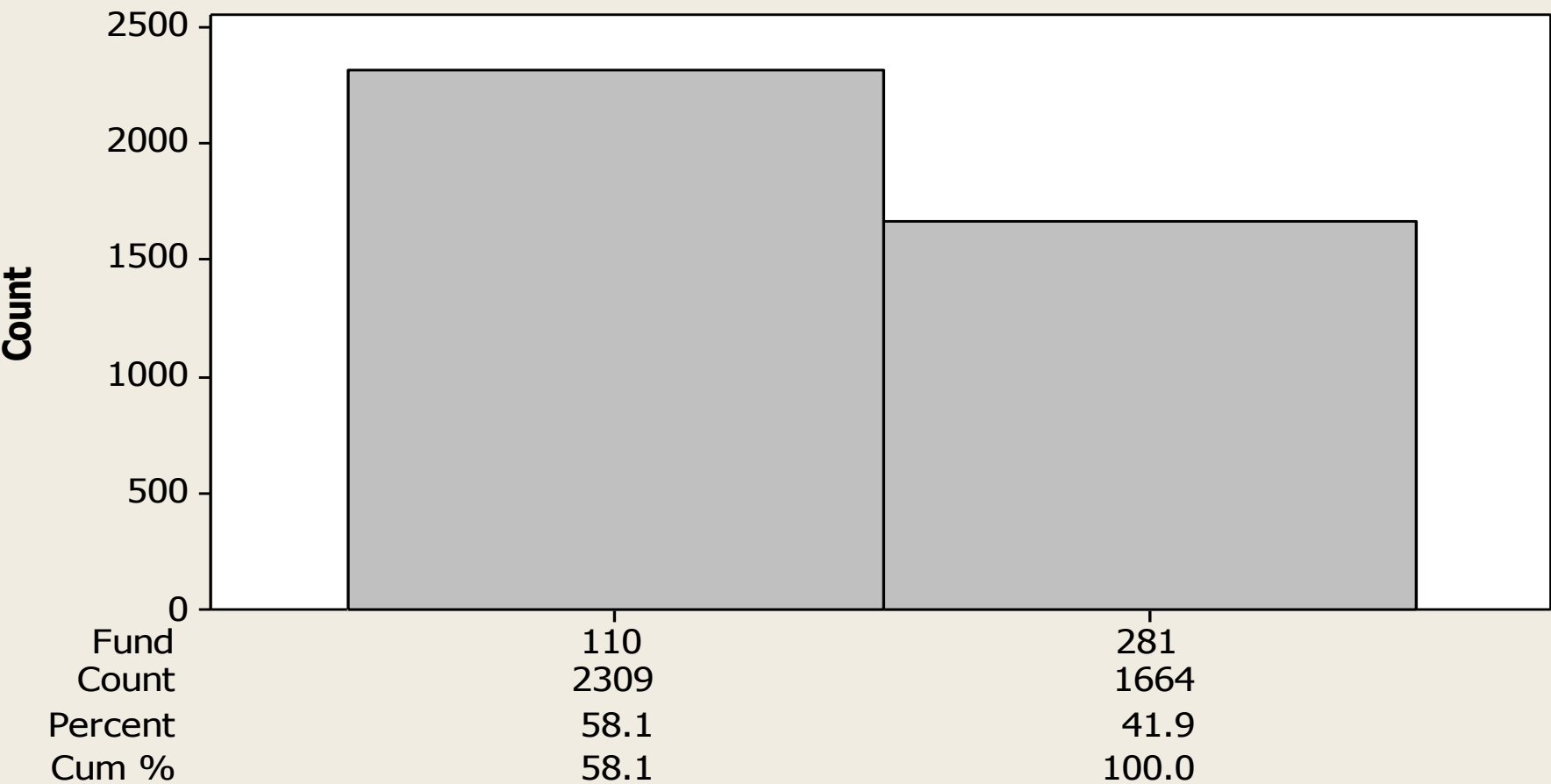


Worksheet: Worksheet 1





Health Department Pareto by Fund (General Fund 110 vs Grant 281)

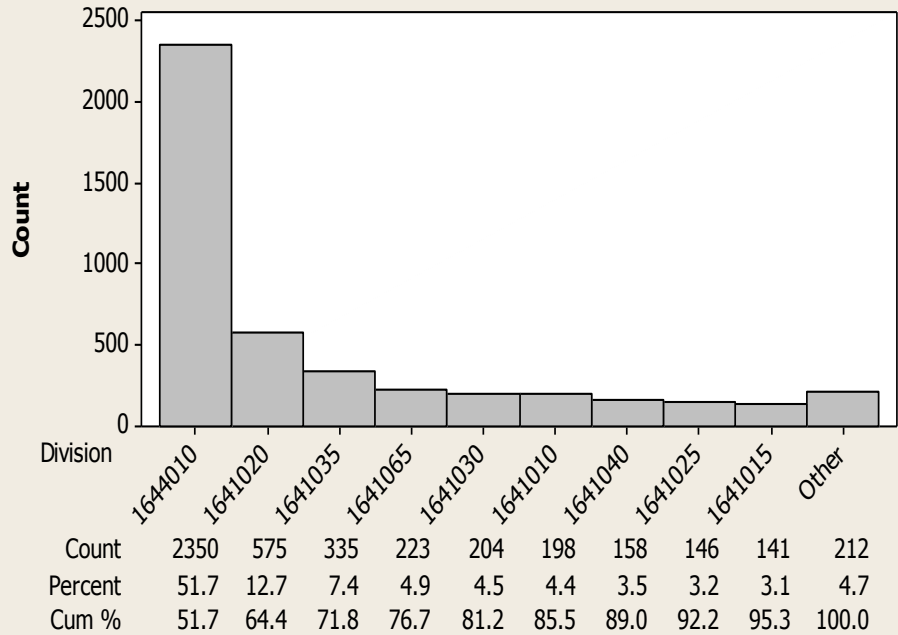


Worksheet: Comparison of DPO's by Funds

# Data Analysis - 2007

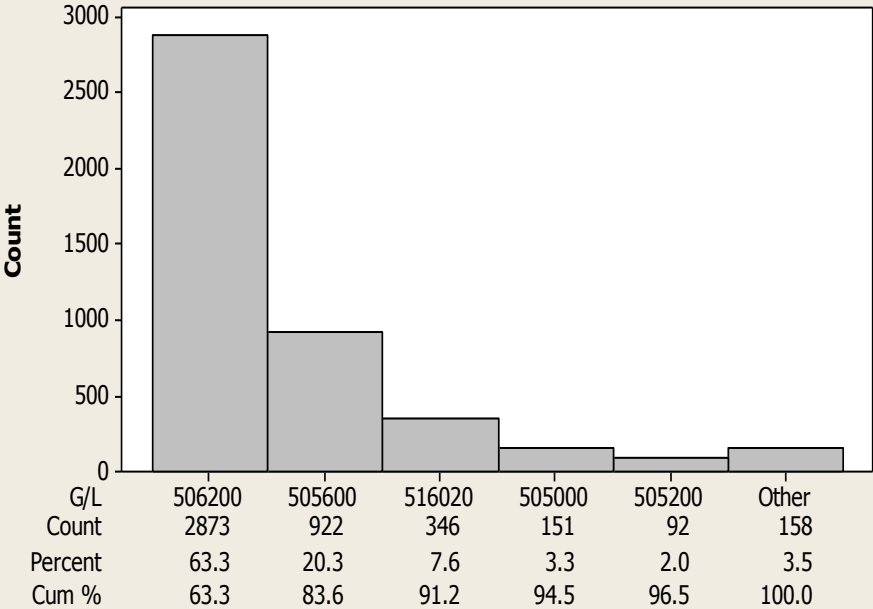


Parks Department Breakdown by Division



Worksheet: Parks Dept by Division

Parks Department Pareto Chart of General Ledger Item



Worksheet: Parks Department by G/L



# OTHER TOOLS USED - Department Survey



## Six Sigma Purchasing Survey

The intention of this survey is to gather data on purchasing practices throughout Erie County Departments and where improvements can be made. Your input as a user of the system is very important and appreciated.

**Please rank from 1-7 (1 being most often) what triggers the usage of a DPO in your department:**

- \_\_\_\_\_ Emergency purchase
- \_\_\_\_\_ Sole source purchase
- \_\_\_\_\_ One-time purchase with vendor
- \_\_\_\_\_ Faster turnaround/delivery
- \_\_\_\_\_ Easier/less steps
- \_\_\_\_\_ Routine purchasing process
- \_\_\_\_\_ Funds expiring (grant, year-end)

Comments: \_\_\_\_\_

## Blanket Orders are considered:

\_\_\_\_\_ Acceptable purchasing procedure    \_\_\_\_\_ Unacceptable purchasing procedure

Comments: \_\_\_\_\_

## Bid information is:

- \_\_\_\_\_ Readily available and easily located (user-friendly)
- \_\_\_\_\_ Difficult to locate
- \_\_\_\_\_ Difficult to understand (not user-friendly)
- \_\_\_\_\_ Not applicable to my department

Comments: \_\_\_\_\_

## State Contract information is:

- \_\_\_\_\_ Easy to access (user-friendly)
- \_\_\_\_\_ Difficult to locate
- \_\_\_\_\_ Difficult to understand (not user-friendly)

Comments: \_\_\_\_\_

Overall suggestions: \_\_\_\_\_





## Cause and Effect Matrix

			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
			Emergency	Safe Start	Operator protection	Failure Isolation	Consequence Mitigation	Failure Prevention	Health, Ergonomics		Blanks	Welds	State Control	Output	Output	Output	Output	
	Customer Priority	Department																Total
1	Safety	Velocity	2	1	3	5	4	2	6		Y	HUP	HUP					1
2	Safety	KHS	5	5	3	1	4	2	2		Y	HUP	HUP					1
3	Safety	HOYS	1	5	2	2	4	3	6		Y	UP	UP					1
4	Safety	Health	3	6	2	1	4	5	2		Y	HUP	HUP					1
5	Safety	HOYS	3	5	6	2	4	1	2		Y	UP	UP					1
6	Safety	Disaster Prep	1	2	6	2	3	4	5		Y	HUP	HUP					1
7	Safety		6	2	5	3	2	1	4		Y	HUP	HUP					1
8	Safety	Health	2	3	1	6	2	5	4		Y							1
9	Safety	18THFL	1	6	4	2	3	2	5		Y	UP	UP					1
10	Safety	Camelcote	4	1	2	5	6	3	2		Y		H/A					1
11	Safety	Explain Health	2	2	5	3	1	6	4		Y	HUP	HUP					1
12	Safety	Camels	1	5	2	4	3	6	2		Y	H/A	UP					1
13	Safety	Health	2	3	4	5	6	2	1		Y	HUP	UP					1
14	Safety	HOYS	3	5	2	1	6	4	2		Y	UP	HUP					1
15	Safety	Health	2	3	4	6	2	1	5		Y	HUP	HUP					1
16	Safety	KHS	5	6	4	1	2	3	2		Y	HUP	HUP					1
17	Safety	Libraries	1	5	6	2	4	3	2		Y	UP	UP					1
18	Safety	Health	2	4	1	3	5	2	6		H	HUP	HUP					1
19	Safety	Scissors	3	4	2	5	1	6	2			HUP	HUP					1
20	Safety	HOYS	3	4	5	1	2	6	2		Y	HUP	HUP					1
21	Safety	Explain	4	5	6	2	3	1	2		Y	H/A	UP					1
22	Safety	Explain	4	5	3	1	2	6	2		H	HUP	UP					1
23	Safety	Social Sciences	5	3	4	1	2	6	2		Y	UP	HUP					1
24	Safety	Explain	2	3	5	1	4	2	6		Y	HUP	HUP					1
25	Safety	KHP	5	6	4	2	1	3	2		H	UP	HUP					1
26	Safety	KHP	4	5	6	1	2	3	2		Y	HUP	HUP					1
27	Safety	DISS	3	5	2	1	4	6	2		H		HUP					1
28	Safety	Explain	6	2	2	6	5	1	2		Y	UP	UP					1
29	Safety	Disclaim	2	3	1	5	6	4	2		Y		UP					1
30	Safety	KHP	1	6	4	2	3	2	5		Y	HUP	UP					1
31	Safety	GPS	4	6	5	2	3	1	2		Y	UP	UP					1
Total			33	11	11	34	11	11	105	1	1	1	1	1	1	1	1	
LSE																		
TSE																		
MSE																		

1. List the key outputs in the process.

2. Rank each output on a 1-10 scale.

3. List the inputs and process steps. Use the process map and Fishbone for inputs.

4. Rank each input on its critical effects rank output on a 1-10 scale.

5. Sum the scores based on the Total column. The inputs are now ordered by customer's priorities.

Note: If modifications are made to this worksheet (e.g., adding rows or columns,



✓ **Just Do It** ✓

### DISS

- ✓ Designated SAP approval contact
- ✓ Specs for most requested items posted on SharePoint to eliminate repetitive requests and delays

### Budget

- ✓ Reduce turnaround time for journal entry requests (fund transfers)





- Purchasing Procedures

- RFP Tools

- Annual bids

  - E-mail Contact

  - Search Mechanism

    - Department

    - Expiration Date

    - Contract (Name or Number)

    - Key Word



http://sharepoint.erie.gov/Pages/Purchasing.aspx

File Edit View Favorites Tools Help

Purchasing

County of Erie SharePoint

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County of Erie SharePoint

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County of Erie SharePoint | Erie County Intranet | Departments (Site Map) | Online Computer Training | Search Center

View All Site Content

**Documents**

- Erie County Employee Newsletters

**Erie County Intranet**

**Site Map**

- Comptroller
- County Attorney
- County of Erie Policies
- CultureChange
- Division of Information and Support Services
- Environment and Planning
- Executive
- Health
- Legislature
- Parks and Recreation
- Personnel
- Public Works
- Purchasing**
- Six Sigma
- Social Services
- Veterans

**Online Computer Training**

County of Erie SharePoint > Site Map > Purchasing

**Bridget A. Corcoran, Director**

95 Franklin Street  
Buffalo, NY 14202  
Phone: (716) 858-6315  
Fax: (716) 858-6465

The Division of Purchase is the County's central purchasing agent for supplies, materials, equipment, insurance and contracts for service. Purchasing secures goods and services from the lowest responsible bidder on the basis of price, specifications, product evaluation, and delivery. Purchasing is a unit of the Division of Information and Support Services. Information and Support Services recovers a portion of the costs of providing purchasing services from all participating departments, agencies and the state and federal governments.

[Department of Purchasing](#)



Home - Purchasing - Windows Internet Explorer

http://sharepoint.erie.gov/purchasing/default.aspx

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County of Erie SharePoint

Purchasing

All Sites

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County of Erie SharePoint

Erie County Intranet

Departments (Site Map)

Online Computer Training

Search Center

View All Site Content

Documents

- Policies Procedures
- Contracts
- RFP Tools

Lists

- Calendar

Discussions

Sites

People and Groups

Recycle Bin

County of Erie SharePoint > Purchasing

A site for the Purchasing department to quickly organize, author, and share information. Authorization may be required to access this site.

Policies Procedures

Type	Name	Modified By
There are no items to show in this view of the "Policies Procedures" document library. To create a new item, click "Add new document" below.		
<a>Add new document</a>		

RFP Tools

Type	Name	Modified By
	RFP Ad Format <span>NEW</span>	Shear, Andrea
	Bflo News Cover Letter <span>NEW</span>	Shear, Andrea
	Approved Newspapers <span>NEW</span>	Shear, Andrea
	RFP COE form 060109 <span>NEW</span>	Shear, Andrea
<a>Add new document</a>		

Contracts

Type	Name	Expires	Contract Number
	AUTO_TRUCK_BELT_HOSES	January	280014-004
	AUTO_TRUCK_MUFFLERS	January	280013-004
	bid_deadlines	January	280014-004
<a>Add new document</a>			

Announcements

There are currently no active announcements. To add a new announcement, click "Add new announcement" below.

Add new announcement

Links

Purchasing Department on erie.gov

Add new link

Done

start

Inbox - Micro...

KINGSTON (D:)

Home - Purc...

Microsoft Po...

Minitab - Unti...

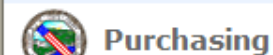
Trusted sites

100%

10:05 AM

County of Erie SharePoint

Welcome Shear, Andrea | My Site | My Links |



## Purchasing

All Sites



Advanced Search

County of Erie SharePoint

Erie County Intranet

Departments (Site Map)

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Search Center



County of Erie SharePoint &gt; Purchasing &gt; RFP Tools

## RFP Tools

View All Site Content

### Documents

- Policies Procedures
- Contracts
- RFP Tools

### Lists

- Calendar

### Discussions

### Sites

### People and Groups

Recycle Bin

New Upload Actions

View: All Documents

Type	Name	Modified	Modified By
	Approved Newspapers ! NEW	6/17/2009 4:24 PM	Shear, Andrea
	Bflo News Cover Letter ! NEW	6/17/2009 4:25 PM	Shear, Andrea
	RFP Ad Format ! NEW	6/17/2009 4:25 PM	Shear, Andrea
	RFP COE form 060109 ! NEW	6/17/2009 4:24 PM	Shear, Andrea



## Contracts

## Documents

- Policies Procedures
- Contracts
- RFP Tools

## Lists

- Calendar

## Discussions

## Sites

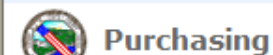
## People and Groups

Upload Actions

View: All Documents

Type	Name	Modified	Modified By	Expires	Contract Number	Contact E-Mail Address	Departments
	AUTO_TRUCK_BELT_HOSES	6/18/2009 1:44 PM	Shear, Andrea	January	280014-004	Denyse.Insalaco-Weatherbee@erie.gov	Parks; Highways; DPW; Sewers; Fleet; Purchase
	AUTO_TRUCK_MUFFLERS	6/18/2009 1:44 PM	Shear, Andrea	January	280013-004	Denyse.Insalaco-Weatherbee@erie.gov	Parks; Highways; DPW; Sewers; Fleet; Purchase
	bid_deadlines	6/12/2009 10:44 AM	Jowsey, Jennifer	January	280014-004		





## Purchasing

All Sites

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## Contracts

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## Documents

- Policies Procedures
- Contracts
- RFP Tools

## Lists

- Calendar

## Discussions

## Sites

## People and Groups

Recycle Bin

Upload Actions

View: All Documents

Type	Name	Modified	Modified By	Expires	Contract Number	Contact E-Mail Address	Departments
	AUTO_TRUCK_BELT_HOSES	6/12/2009 11:14 AM	Jowsey, Jennifer	January	280014-004	shear	
	AUTO_TRUCK_MUFFLERS	6/12/2009 11:14 AM	Jowsey, Jennifer	January	280013-004		
	bid_deadlines	6/12/2009 10:44 AM	Jowsey, Jennifer	January	280014-004		

This column type cannot be sorted

Clear Filter from Departments

(Empty)

Parks

Highways

DPW

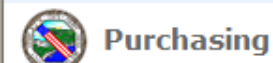
Sewers

Fleet

Purchase

County of Erie SharePoint

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**Purchasing**

All Sites

Mufflers



Advanced Search

Enter search words

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County of Erie SharePoint &gt; Purchasing &gt; Contracts

**Contracts**

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- Policies Procedures
- Contracts
- RFP Tools

**Lists**

- Calendar

**Discussions****Sites****People and Groups**

Recycle Bin

Upload		Actions						View: <b>All Documents</b>
Type	Name	Modified	Modified By	Expires	Contract Number	Contact E-Mail Address	Departments	
	AUTO_TRUCK_BELT_HOSES	6/18/2009 1:44 PM	Shear, Andrea	January	280014-004	Denyse.Insalaco-Weatherbee@erie.gov	Parks; Highways; DPW; Sewers; Fleet; Purchase	
	AUTO_TRUCK_MUFFLERS	6/18/2009 1:44 PM	Shear, Andrea	January	280013-004	Denyse.Insalaco-Weatherbee@erie.gov	Parks; Highways; DPW; Sewers; Fleet; Purchase	
	bid_deadlines	6/12/2009 10:44 AM	Jowsey, Jennifer	January	280014-004			

## Search Center

County of Erie SharePoint | Erie County Intranet | Departments (Site Map) | Online Computer Training | **Search Center**

All Sites People

mufflers Advanced Search

Results by Relevance | View by Modified Date | Alert Me | RSS

Results 1-2 of 2. Your search took 0.05 seconds.

### Auto and Truck Belts and Hoses (TEST)

Auto and Truck **Mufflers**

[http://sharepoint.erie.gov/purchasing/Contracts/bid\\_deadlines.xlsx](http://sharepoint.erie.gov/purchasing/Contracts/bid_deadlines.xlsx) - 27KB - Jowsey, Jennifer - 6/12/2009

### Auto and Truck **Mufflers**

January 280013-004 Parks Highways Fleet Jowsey, Jennifer AUTO\_TRUCK\_MUFFLERS.pdf AUTO\_TRUCK\_MUFFLERS.pdf pdf 37984 0 Purchasing

<http://sharepoint.erie.gov/purchasing/Contracts/Forms/DispForm.aspx?ID=4> - 37KB - Jowsey, Jennifer - 6/12/2009



## Contracts: AUTO\_TRUCK\_MUFFLERS

[Close](#)[Edit Item](#) | [Delete Item](#) | [Manage Copies](#) | [Check Out](#) | [Workflows](#) | [Alert Me](#)

Name	AUTO_TRUCK_MUFFLERS
Title	Auto and Truck Mufflers
Expires	January
Contract Number	280013-004
Contact E-Mail Address	
Departments	Parks; Highways; Fleet

Created at 6/12/2009 11:08 AM by Jowsey, Jennifer  
Last modified at 6/12/2009 11:14 AM by Jowsey, Jennifer

[Close](#)

# CONTRACT EXTENSION

**AUTO AND TRUCK MUFFLERS**

**BID NO.: 280013-004**

**CONTRACT TERM: FEBRUARY 1, 2008 – JANUARY 31, 2010**

**COMMODITY CODE: 060**

**VENDOR INFO:**

Valu Muffler – Vendor #113766

2603 Main Street, Buffalo, NY 14214

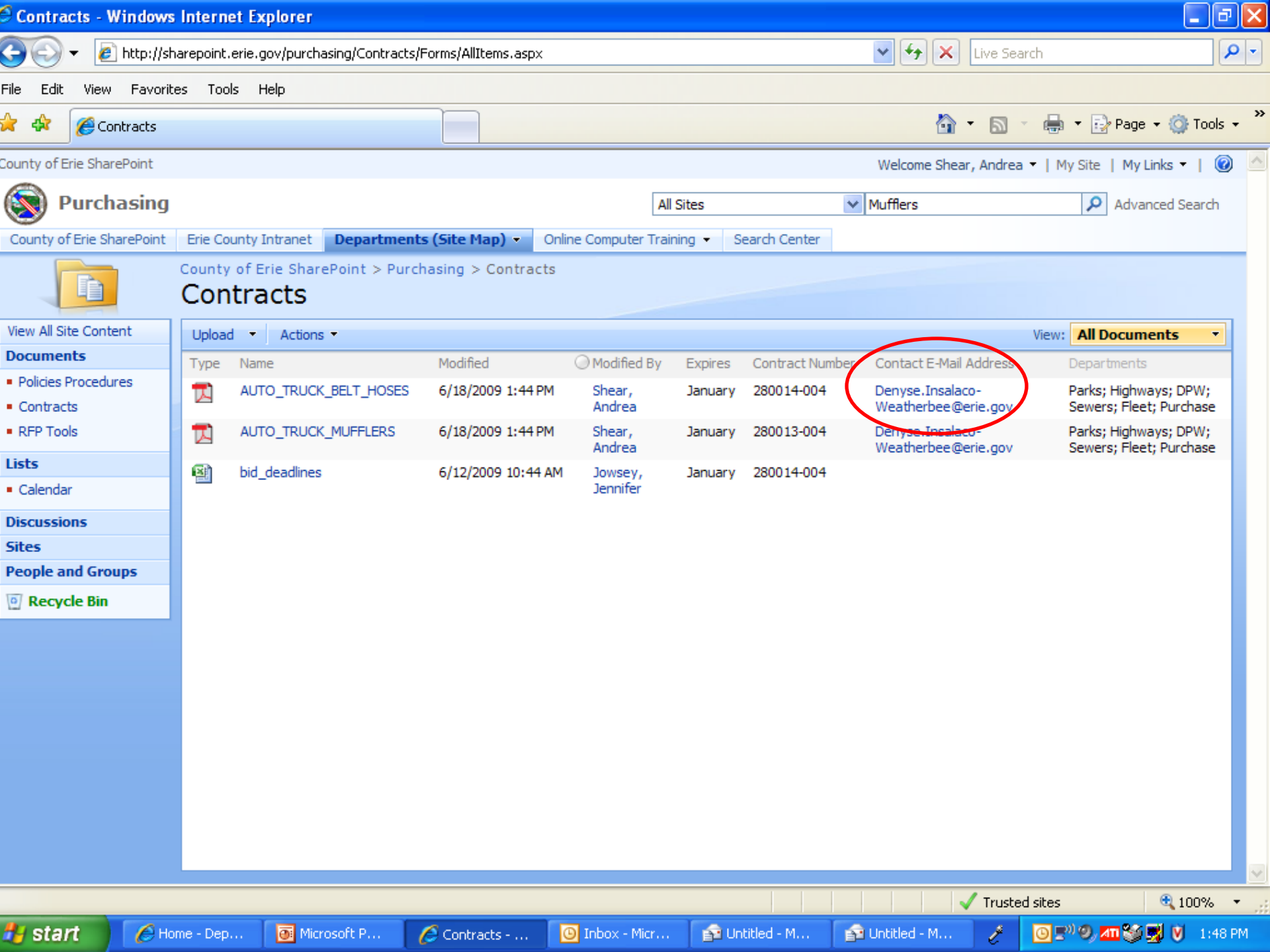
Telephone #716-837-5280

Valu Muffler – Vendor #113767

3099 Delaware Avenue, Kenmore, NY 14217

Telephone #716-873-1383

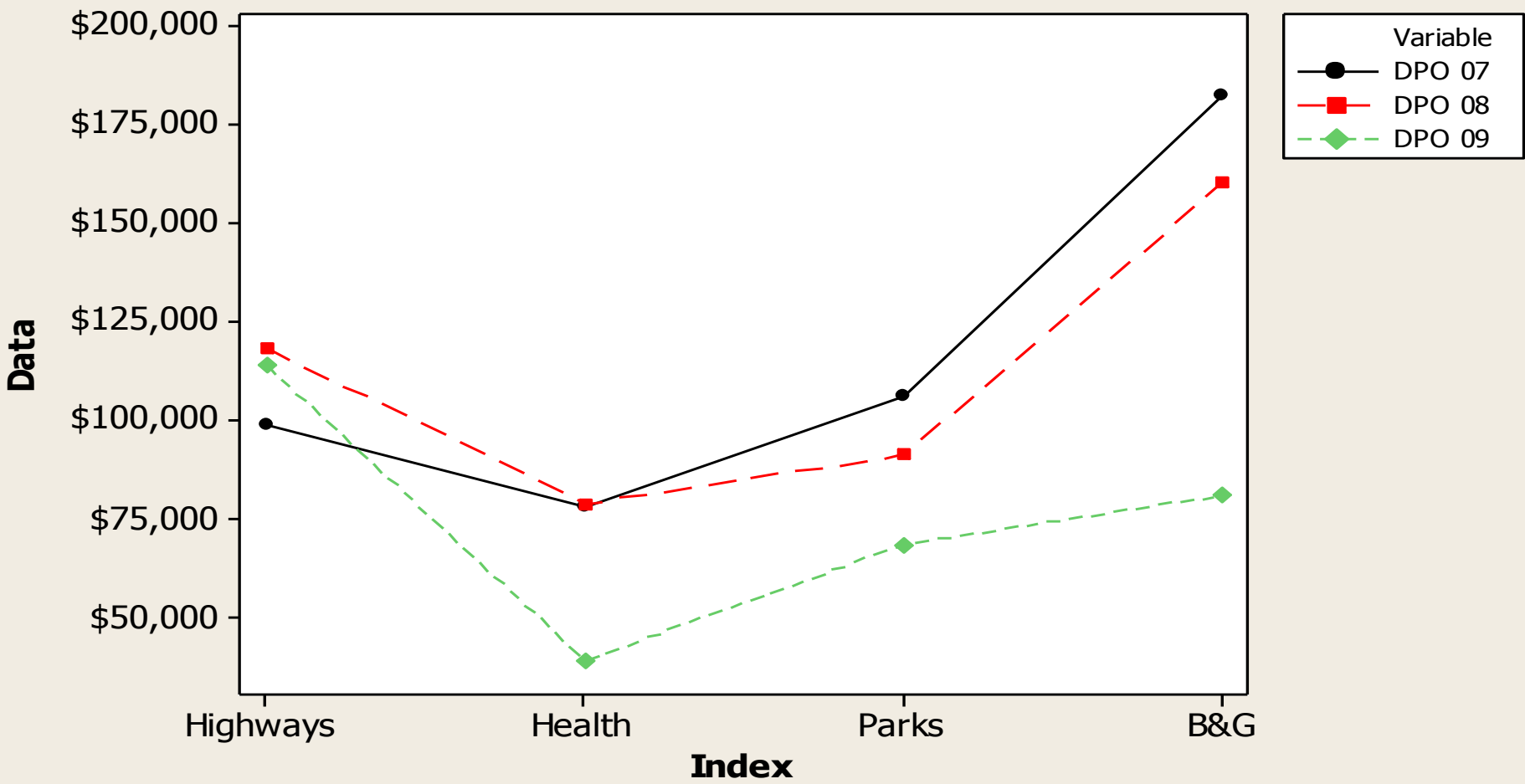


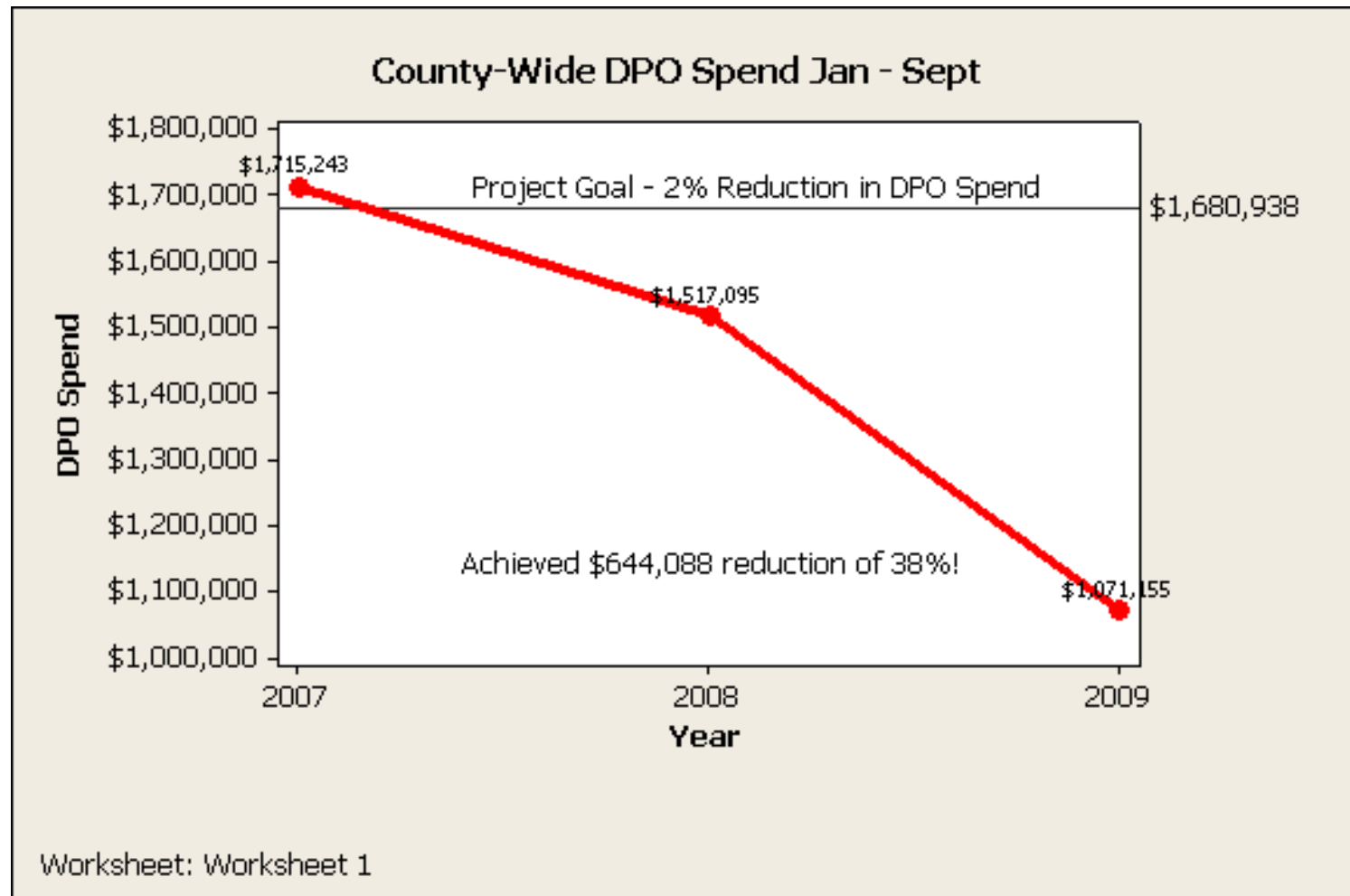




# DPO Spend Comparison of '07, '08 & '09 Show YTD Reductions

DPOs Jan - May







## REPAIRS & MAINTENANCE (506200)

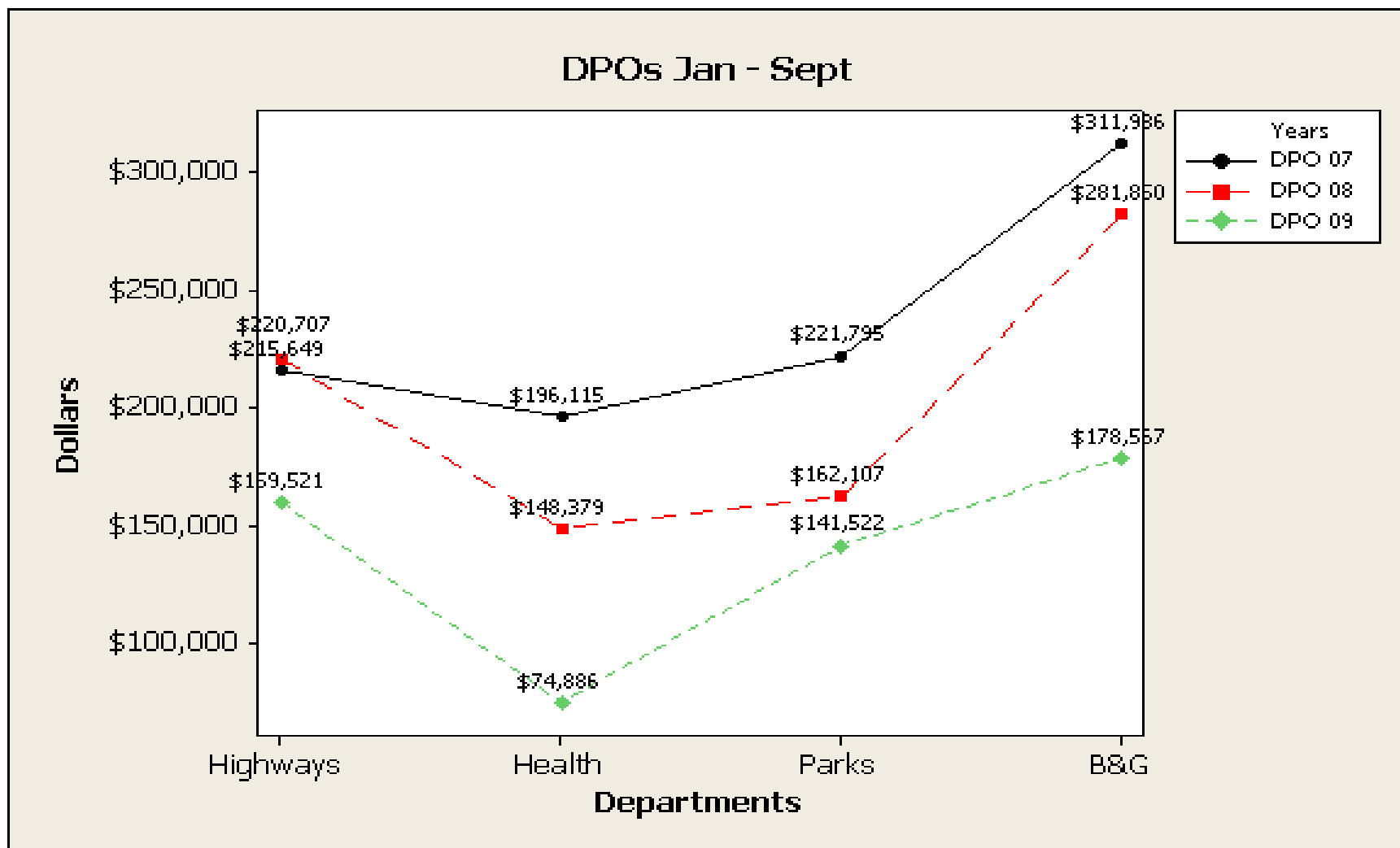
### BUILDINGS & GROUNDS

	YTD 1/1-9/30	ANNUAL BUDGET	% OF BUDGET
2008	\$442,789.00	\$686,147.00	65%
2009	\$465,186.00	\$781,336.00	60%

### COUNTY PARKS

	YTD 1/1-9/30	ANNUAL BUDGET	% OF BUDGET
2008	\$126,657	\$182,831.00	69%
2009	\$85,571.00	\$142,233.00	60%





# SIX SIGMA TOOLS USED



Define	Measure	Analyze	Improve	Control
<ul style="list-style-type: none"> <li>✓ Problem Statement</li> <li>✓ Macro Map</li> <li>✓ Identify Customers</li> <li>✓ Project Scope</li> <li>✓ Primary Metric</li> <li>❑ Secondary Metric</li> <li>❑ Consequential Metric</li> <li>❑ Baseline Data</li> <li>❑ Entitlement</li> <li>✓ Objective Statement</li> <li>✓ Financial Estimates</li> <li>✓ Non-financial Benefits</li> <li>✓ Team Members</li> </ul>	<ul style="list-style-type: none"> <li>✓ SIPOC Diagram</li> <li>✓ Process Flow Diagram</li> <li>❑ Value Analysis/ Muda</li> <li>❑ Detailed Flow (I/O)</li> <li>❑ Measurement System Analysis</li> <li>❑ Capability Analysis</li> <li>❑ Short Term Capability</li> <li>❑ Long Term Capability</li> <li>✓ Data Collection</li> <li>✓ Process Monitoring</li> <li>✓ Lean Opportunities</li> <li>❑ C &amp; E Fishbone</li> <li>✓ C &amp; E Matrix</li> </ul>	<ul style="list-style-type: none"> <li>✓ Potential X's</li> <li>❑ Graphical Analysis</li> <li>❑ Hypothesis Testing</li> <li>❑ Means</li> <li>❑ Variance</li> <li>❑ Proportions</li> <li>❑ ANOVA</li> <li>❑ Regression Analysis</li> <li>❑ FMEA</li> <li>❑ ID Critical X's</li> <li>✓ Quick Improvements</li> <li>❑ Lean Improvements</li> <li>✓ Process Tracking</li> </ul>	<ul style="list-style-type: none"> <li>❑ Regression Analysis</li> <li>❑ DOE Planning</li> <li>❑ Screening DOEs</li> <li>❑ Quantifying DOEs</li> <li>❑ Optimizing DOEs</li> <li>❑ Verify Critical X's</li> <li>❑ Y = F(x)</li> <li>❑ Optimization</li> <li>❑ Generate Solutions</li> <li>❑ Select Solutions</li> <li>❑ Pilot Trials</li> <li>❑ Capability Analysis</li> </ul>	<ul style="list-style-type: none"> <li>❑ Control Methods</li> <li>❑ Control Plans</li> <li>❑ Poka-Yoke</li> <li>❑ SPM – Monitor Y</li> <li>❑ SPC – Control X's</li> <li>❑ OCAP</li> <li>❑ Update FMEA</li> <li>❑ Project Transition Action Plans</li> <li>❑ Update Financial Benefits</li> <li>❑ Final report</li> <li>❑ Close Project</li> </ul>
❑ Define Review	❑ Measure Review	❑ Analyze Review	❑ Improve Review	❑ Control Review



